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Remarks

Claims 1-18, 30-39, 83 and 84 remain pending in the present application. By the present amendment, claims 1 and 8 have been amended, and claims 7, 19-29 and 40-82 have been canceled.

Pursuant to 37 C.F.R. §1.142(b), claims 19-29 and 40-82 (Group II) have been withdrawn from further consideration by the Examiner as being drawn to a non-elected invention. By the present amendment, these claims have been canceled.

Claims 1-7, 13-18 and 30-35 have been rejected pursuant to 35 U.S.C. §103(a) as obvious over Cone (U.S. Patent No. 2,400,541) in view of Ash et al. (U.S. Patent No. 2,817,639) or Cone (U.S. Patent No. 3,095,313). In the Office Action, the Examiner noted that Cone ('541) discloses a protein-based glue for making plywood panels. The glue is based on hydrolyzed blood protein. The Examiner further asserted that although Cone ('541) is silent as to the presence of resin, Ash et al. and Cone ('313) teach that it is a conventional expedient to use a thermosetting resin such as phenol formaldehyde resin in combination with protein.

By the present amendment, claim 1 now recites a cellulosic fiber composite comprising, *inter alia*, a cellulosic material and a resin binder comprising vegetable protein hydrolysates and a synthetic resin. Also, claim 7 has been canceled and claim 8 has been amended to reflect its dependency on independent claim 1.

To establish a *prima facie* case of obviousness, *inter alia*, all of the claimed limitations must be taught or suggested by the prior art. MPEP 2143.03 (citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). The Cone patent ('541) does not fulfill this requirement as it teaches a glue for the manufacture of plywood panels, which glue comprises a mixture of water, blood, silicate, caustic soda, and lime. The Cone patent does not disclose a resin binder comprising vegetable protein hydrolysates. Accordingly, because Cone does not teach or suggest the claimed limitations, as amended herein, it cannot be relied upon to support the rejection under §103(a).

In addition, Cone ('313) and Ash et al. ('639) do not fulfill the deficiencies of Cone ('541). These patents require the use of sodium silicate together with phenol formaldehyde resin and a water-soluble protein for creation of plywood adhesives. The

inclusion of sodium silicate in these compositions make it difficult to control the viscosity of the adhesive, a property not exhibited by the present invention, which does not include sodium silicate. Accordingly, it is relatively easy to control the viscosity of the resin binder of the present application.

The rejected dependent claims contain all of the limitations of the base claim to which they depend. Accordingly, for all of the reasons set out above, applicants submit that the Examiner has not presented a *prima facie* case of obviousness and respectfully request that the rejection be withdrawn.

Also in the Office Action, claims 1-18, 30-39, 83 and 84 were rejected as being unpatentable over Riebel et al. (WO 95/04779) in view of publications by Clay et al., Hse (Abstract), or Vijayendran. The Examiner noted that Riebel et al. disclose the use of soy protein and thermosetting resin such as phenol formaldehyde resin in making wood fiber and chipboard. The Examiner further asserted that although Riebel et al. are silent as to the use of soy protein hydrolysate, Clay, Hse or Vijayendran teach that it is well known to employ soy protein hydrolysate as the form of soy protein in combination with the phenol formaldehyde thermosetting resin, and that additional advantages of lower cost and effectiveness are further taught by Vijayendran and thus, create additional impetus and motivation in using hydrolyzed soy protein.

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. MPEP 2142. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP 2142 (citing *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)). For the following reasons, applicants submit that the Examiner has not met this burden and respectfully request that the rejection be withdrawn.

As noted above, in order to establish a *prima facie* case of obviousness, *inter alia*, all of the claimed limitations must be taught or suggested by the prior art. International Application No. WO 95/04779 discloses a fiber-reinforced protein-based

biocomposite particulate material containing a legume-based thermosetting resin and cellulosic material, and rigid biocomposite pressure-formed materials produced therefrom. The particulate material and resultant pressure-formed materials contain the legume-based resin and fibrous cellulosic material in amounts such that the ratio of cellulose solids to resin solids is about 0.8:1.0 to about 1.5:1.0. Particularly preferred pressure-formed materials also include a secondary thermosetting binder, such as an isocyanate. (See Abstract).

In the present application, independent claim 1 as amended includes the limitation that the composite contains an "effective amount" of resin binder so as to bind together the cellulosic material. In the specification, it's recited "[b]y effective amount we mean the addition of resin binder in an amount so that is acts as an adhesive for the cellulosic material and not in an amount so that it is a major constituent of the composite" and that "[b]y effective amount we do not mean an amount sufficient to fully impregnate the cellulosic material, nor do we mean an amount sufficient to coat and encapsulate the cellulosic material." (See specification at page 6, lines 6-10).

In contrast, Riebel et al. teach employing close to equal amounts of legume-based resin and fiberous cellulosic solids (40-56%) in the production of particulate materials having a moisture content of about 55-75% by weight (see Riebel et al. at page 8, lines 14-17 and 25-26). By assuring that the moisture content remains above 59% by weight, the relatively high amount of legume-based resin fully impregnates the particles such that a new composite material is prepared rather than a material that is produced by gluing fiberous cellulosic solids together by an adhesive (see Riebel et al. at page 8, lines 18-24 and page 9, lines 28-32). Although Riebel et al. describe that particles can be combined with a secondary thermosetting binder, such as isocyanate, to form biocomposite materials, an additional drying step is required to reduce the moisture content to less than about 20% by weight prior to pressing. Moreover, as noted above, the particles of Riebel et al. are not those of the present invention, given that the legume-based resin fully impregnates the particles. For all of these reasons, Riebel et al. teach away from and thus cannot be relied upon to support the instant

rejection. Applicants respectfully request that the rejection be withdrawn, as the Examiner has not presented a *prima facie* case of obviousness.

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Conclusion

Applicants respectfully submit that, in view of the above amendments and remarks, the application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

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